Canon

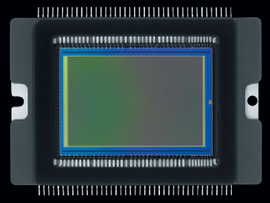
EOS 7D

Beyond the Still.

Advanced Technology for Advanced Performance.

18.0 Megapixel CMOS Sensor

The EOS 7D features a superb, Canon designed, 18.0 Megapixel CMOS sensor that captures a tremendous level of resolution with striking detail down to each individual pixel. With size to spare, it's easy to crop images or to make massive enlargements without concern of losing detail. A marvel of technical innovation, the EOS 7D's CMOS sensor incorporates a number of significant refinements that enhance the performance and speed in the capture of each image. Thanks to an advanced, new, in-house semiconductor



18.0 MEGA PIXELS CMOS

CMOS Sensor (actual size)

manufacturing process, the EOS 7D's sensor has more pixels than any other APS-C sized sensor in Canon's lineup, with less digital noise, a higher ISO sensitivity, plus a wider dynamic range than previously available. The EOS 7D's CMOS sensor incorporates a unique on-chip noise reduction technology to deal with both fixed pattern and random noise. It features a new photodiode construction that results in an improved photoelectric conversion rate. The speedier conversion means faster and increased sensitivity at the pixel level. This speed and sensitivity, in combination with new gapless microlenses, plus less space between microlenses and photodiodes, means a better signal-to-noise ratio, which translates to outstanding real-world performance. Finally, an infrared, multi-layer low-pass filter is placed in front of the sensor to isolate and eliminate false colors that the sensor may detect, while retaining full detail. This low pass filter features a fluorine coating to reduce dust adhesion for less digital clean up.

Dual DIGIC 4 Image Processors

DiGiC 4

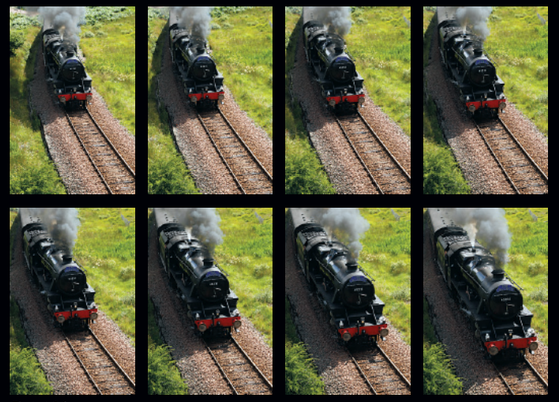
Dual DIGIC 4 Image Processors

The EOS 7D's new Dual DIGIC 4 Image Processors ensure that images are captured, processed and saved with remarkable speed—up to 8.0 frames per second! Developed and produced for Canon cameras to maximize performance for both the capture and recording stages of digital photography, Dual DIGIC 4 Image Processors work in concert with Canon's CMOS sensor chips to dramatically enhance image quality and deliver a more intuitive, responsive camera. Optimized signal processing algorithms work with the multi-channel signal from the cameras sensor to deliver significantly speedier camera response. Color reproduction, noise reduction in low light situations and reproduction of fine detail are also improved. These Dual DIGIC 4 Image Processors speed up all camera operations such that a number of inventive shooting and recording features are possible. Live Face Detection AF, HD Video, Canon's amazing Auto Lighting Optimizer, Lens Peripheral Illumination Correction and more are all possible thanks to the speedy processing of the Dual DIGIC 4 Image Processors.

Professional Level Performance

8.0 Frames Per Sec

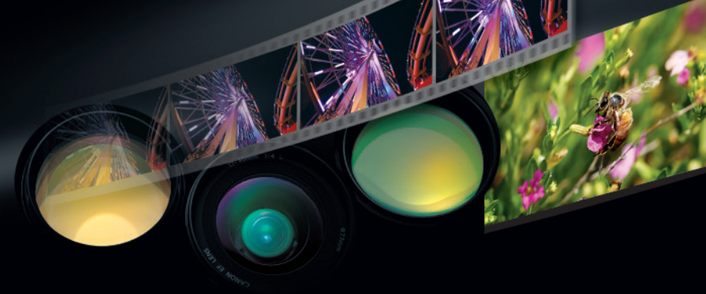
Capable of shooting up to 126 Large/JPEGs with a UDMA CF card at 8.0 fps, the EOS 7D is a perfect camera for action. The EOS 7D is outfitted with a rugged, remarkable shutter, which, aided by the Dual DIGIC 4 Image Processors, ensures instant response and performance on par with most professional cameras on the market while outpacing every camera in its class.



Shot at 8 fps

The EOS 7D has a broad range of ISO settings, up to ISO 12800 in H mode, enabling shooting from dawn through dusk and ensuring capture of the finest detail. The Canon CMOS sensor and Dual DIGIC 4 Image Processors ensure that shooting in poor lighting situations is as easy as point and shoot. The EOS 7D employs a 14-bit converter to process the output of the CMOS sensor. Compared to the 12-bit converters used in most digital cameras, Canon's design ensures smoother tonal transitions, more natural gradations, and superior color fidelity. RAW images are recorded at 14 bits so that processed 16-bit TIFF images contain the full range of tonal values captured by the sensor.

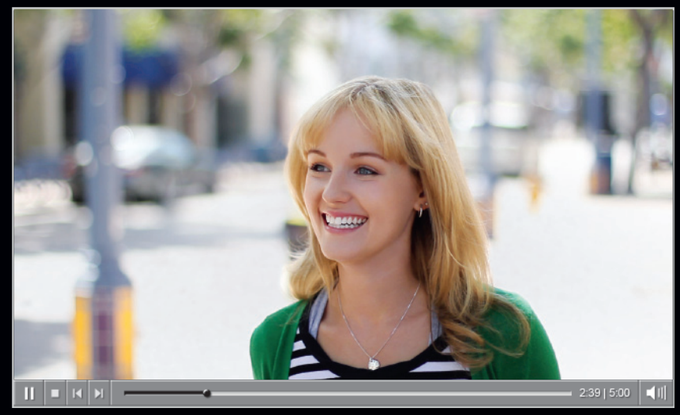
Media Creation Beyond the Still, Canon Full HD.



A Complete Media Creation Tool

EOS Movie FULL HD

The EOS 7D does not just shoot video clips, it offers the enhanced image quality, smooth frame rates and adaptive exposure compensation necessary in a professional movie making tool. Shooting video with the EOS 7D increases flexibility for the photographer in that it also allows for full use of Canon's EF and EF-S lenses, including wide angle, macro, tilt-shift and fish-eye, providing a wealth of depth-of-field and other creative shooting options once reserved only for still photography. By shooting video with a large sensor camera, it's simple to take advantage of the image quality and characteristics intrinsic to SLR photography. Combined with its size, image quality and flexibility, the EOS 7D is an all-in-one image capturing tool. Not only can one take advantage of the EOS 7D's expansive range of ISO sensitivities, for amazing performance, even in dimly lit situations, it's simple to exert full control over exposure and depth-of-field, which can have a profound effect on the mood of the moving image. And it's all as easy as the press of a button. The EOS 7D has a dedicated Live View/Movie Recording lever with a start/stop button that gets the shooting started fast.



Recording Sizes

Full HD Video is captured at 1920 x 1080 resolution at 24 (23.976), 25, or 30 (29.97) fps, for up to 4GB per clip. Movies are saved as MOV files and can be viewed in Full HD with HDMI output. Other recording sizes include HD at 1280 x 720 resolution at 50/60 (59.94) fps or SD/VGA at 640 x 480 resolution at 50/60 (59.94) fps.

Three recording modes

Manual Exposure Control

As with still images, the more control the photographer or filmmaker has over the technical aspects of a shoot, the more refined the expression, or mood of the final product. The EOS 7D offers completely flexible exposure control for its movie modes, allowing for complete creative control for the shooter. In Manual mode, users can control depth-of-field and sense of motion, creating gorgeous background blur. Exposure can be determined and set even in complex lighting situations, maintaining the same look and feel through an entire scene, not just the initial shot, and minimizing camera noise that can occur when the aperture changes due to exposure adjustment mid-clip.

Beyond the Moving Image

The EOS 7D has a built-in microphone for simple mono recording. For sound quality that mirrors the tremendous resolution of the EOS 7D's video recordings, stereo sound can be recorded through an external microphone connected to the EOS 7D's 3.5mm microphone input terminal. With an external microphone attached, the possibilities for sound recording are increased exponentially. Another phenomenal perk of the EOS 7D's Movie mode is that still images can be captured, in full resolution, while shooting movies and can be saved as distinct files. It's as simple as pressing the shutter button while recording a movie, and the supplied image can be modified as could any other recorded still. Playback modes are available in-camera. Sound and all Live View AF features can be used in shooting video. Simple editing can even be done in-camera, and movies can be played on both standard and HD televisions by using an AV cable or HDMI. Uploads to a computer are straightforward and quick.

FULL HD 1080

Advanced Photography In A Whole New Light.

New Viewfinder, Intelligent New Perspective

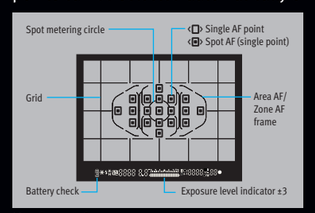
Pentaprism

The EOS 7D features a bright, completely redesigned viewfinder that not only offers 100% coverage, 1x magnification, a glass pentaprism, a 29.4° angle of view and user-controlled dioptric adjustment. It also features a newly-designed Intelligent Viewfinder which can superimpose important shooting tools, like a grid display or the new Dual Axis Electronic Level within the viewfinder at the touch of a button, and becomes the main user interface for the entirely redesigned AF system. Most important, it's one of the brightest, clearest and most brilliant viewfinders Canon has ever produced, meaning less eye fatigue and more picture taking.

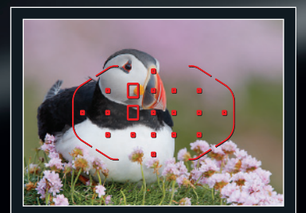
Focusing System

All Cross-type 19-point AF

Canon EOS SLR cameras have consistently featured cutting-edge AF technologies and the EOS 7D takes them a step further. The EOS 7D uses a brand new 19-point AF all cross-type system that provides not only tremendous AF coverage, but also phenomenal control over focusing point selection. Any of the 19 high-precision, cross-type AF points can be selected automatically or manually, for instantaneous, pin-point accuracy. The high-speed microcomputers in the EOS 7D use advanced algorithms that ensure fast, accurate and responsive AF performance under the widest variety of conditions. Focus tracking is on par with that of the EOS 1D/1Ds series, and includes single point AF, a new Spot AF mode, and AF point expansion where AF points surrounding the one chosen can assist when the subject becomes unfocused. The EOS 7D can register original AF point "Home Positions" and represent them automatically in both horizontal and vertical shooting positions using the camera's orientation sensor. The EOS 7D also has an all new Zone AF system, wherein one of five distinct focus zones can be chosen. Zone AF is particularly useful when the subject is off-center. ONE-SHOT AF mode is ideal for more static subjects—the camera rapidly selects the optimum focusing point, and the subject is instantly brought into focus even if it is off-center. AI SERVO AF mode is excellent for moving subjects. Aided by a highly intelligent predictive focusing algorithm, it precisely tracks subject movement across the wide AF coverage area, automatically shifting the active focusing point as required. AI FOCUS AF mode, which automatically switches between One Shot and AI Servo AF modes based on subject movement, is ideal for shooting stop-and-go subjects. In addition, Canon's Light Source detection AF automatically compensates the focus by taking into account artificial lighting sources and making appropriate adjustments. The EOS 7D's new Intelligent Macro focusing tracks the object or the camera's movement when shooting close-up, to ensure focus is never lost. No matter what mode chosen, the EOS 7D's autofocus is fast, reliable and versatile. And with Canon's Intelligent Viewfinder technology, chosen AF points can be displayed or hidden easily in the Intelligent Viewfinder, according to the photographer's choosing.

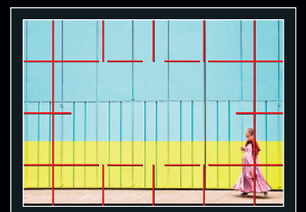


Viewfinder information

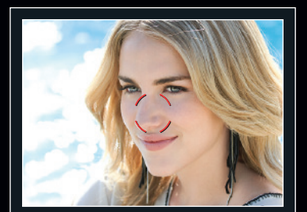


AF points display

Hide all

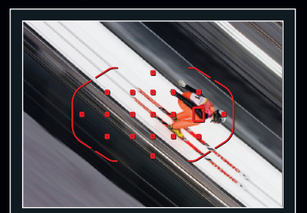


Grid display



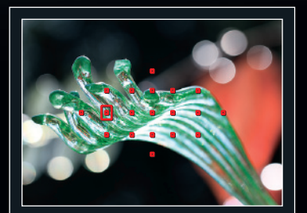
Spot metering display

Dual Axis Electronic Level display

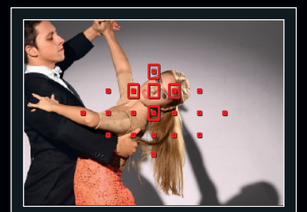


AI Servo AF tracking display

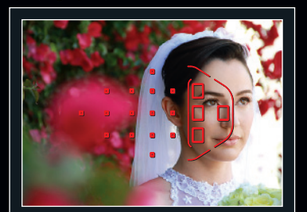
Single point AF



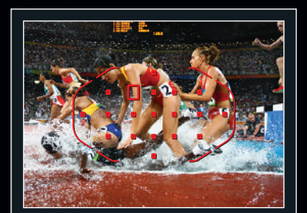
Spot (single-point) AF



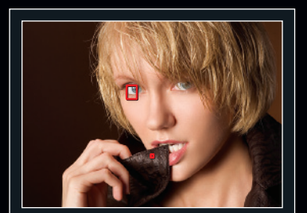
AF point expansion



Zone AF



AF point automatic selection



Home position display

Unprecedented Feature Customization.

Rethought Button and Control Layout

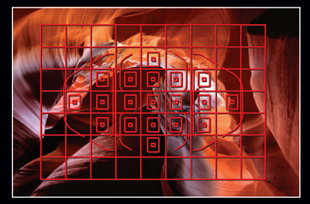
The EOS 7D raises the ergonomics bar with refined curves, changes in the placement of buttons and elegant materials that make shooting both intuitive and fun. The EOS 7D's power switch, now located on the upper left of the camera, is separate from the Quick Control Dial switch. A new dedicated button switches on the Quick Control screen, a JPEG/RAW button makes for quick switches in image quality settings, and the Live View/Movie mode lever starts, stops and switches between Movie and Live View modes. The new Custom Control screen even allows the photographer to remap and rearrange the functions of most of the EOS 7D's buttons to customize the camera's features and precisely match their specific shooting style. Combined with an entirely new coating, plus recessed controls, the EOS 7D is faster and easier to use than anything that came before it.

Intelligent Viewfinder

Canon's Intelligent Viewfinder is a transparent LCD in the viewfinder that displays a variety of shooting information at the push of a button. Unlike other cameras where the representation of AF points and metering areas are static, with the EOS 7D, they can be displayed, adjusted, and hidden, in camera, with ease. This means less distraction and more clarity to view the image in its entirety. The Intelligent Viewfinder even includes a Grid display. The EOS 7D even features a brilliant new Dual Axis Electronic Level and tilt display that aids in achieving perfectly level shots, displaying both roll and pitch in 1° increments, either superimposed in the viewfinder, or on the new Clear View II LCD monitor.

New Metering System

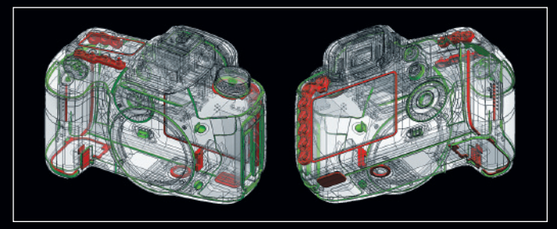
The EOS 7D features Canon's new, multi-layer 63-zone iFCL (intelligent Focus Color Luminance) Metering System designed to compliment the 19-point AF system. By taking into account the color and luminosity surrounding chosen AF point(s), this new system delivers an entirely new level of metering accuracy with an ideal balance of foreground and background information and natural color rendition no matter the composition. Canon's Evaluative metering mode, using an all new metering algorithm, utilizes information from the EOS 7D's new AF system for more precise and consistent exposure results. Of course, the EOS 7D also offers Center-Weighted, Partial and Spot metering modes.



Metering zones

Power and Durability

Canon's decades of camera-making experience mean nothing less than real-world performance and durability that is second to none. The EOS 7D is constructed of the highest quality materials, to exacting standards, to ensure unfettered performance at all times. For example, the shutter can shoot at speeds up to 1/8000 sec for up to 150,000 cycles; the chassis is built of lightweight and rigid magnesium, and the camera's seals are made to resist water and dust. This ensures the EOS 7D will be ready for anything and will remain comfortable in the hand even after a full day of use.



Dust- and water-resistant construction

18.0 MEGA PIXELS CMOS · DiGIC 4 · All Cross-type 19-point AF · 100% Viewfinder · Intelligent Viewfinder · EOS Movie FULL HD · HDMI · 8.0 Frames Per Sec · 63 ZONE Dual-Layer Metering · ISO 6400

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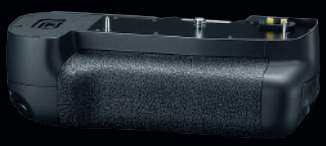
Dedicated Accessories



• Wireless File Transfer unit, WFT-E5A

Designed specifically for the EOS 7D, the WFT-E5A functions both as a wireless file transmitter and as an auxiliary hand grip. Now supporting 5.2 GHz 802.11a/b/and g, it's the fastest and most versatile wireless transmitter around. The WFT-E5A also allows the EOS 7D to wirelessly link to up to 10 other WFT equipped cameras as a Master camera. When the Master camera is fired, the linked cameras are wirelessly triggered to fire in unison. The WFT-E5A allows full access to the camera's ports and maintains weather resistance and durability while offering reliable wired or wireless communication. As a camera grip, the WFT-E5A has the same buttons as Battery Grip BG-E7.

• Battery Grip BG-E7

Battery Grip BG-E7 nearly doubles the battery life of the EOS 7D, while offering advanced operability and seamless integration with the camera's design. Designed to accommodate one or two LP-E6 batteries, or AA batteries with battery magazine BGM-E6, the BG-E7 increases flexibility on the go. With a vertical shutter release button, plus AE lock and Multi-Function button, it makes vertical shooting a breeze. Made with the same grip coating and dust resistance as that on the EOS 7D's body, the BG-E7 is the perfect accessory for the EOS 7D.

Specifications

TYPE

Type: Digital, single-lens reflex, AF/AE camera with built-in flash
Recording Media: CF Card Type I and II, UDMA-compliant CF cards, or to external media (via USB v.2.0 hard drive, using the optional Wireless File Transmitter WFT-E5A)
Image Sensor Size: 22.3 x 14.9 mm (APS-C size sensor)
Compatible Lenses: Canon EF and EF-S lenses
Lens Mount: Canon EF mount
Lens Focal Length Conversion Factor: approx. 1.6x

IMAGE SENSOR

Type: High-sensitivity, high-resolution, large single-plate CMOS sensor
Effective Pixels: Approx. 18.0 megapixels
Total Pixels: Approx. 19.0 megapixels
Aspect Ratio: 3:2 (Horizontal : Vertical)
Color Filter System: RGB primary color filters
Low-pass Filter: Fixed position in front of the CMOS sensor
Dust Delete Feature: (1) Automatic sensor cleaning, (2) Manual cleaning of sensor, (3) Dust Delete Data appended to the captured image

RECORDING SYSTEM

File Format: Design rule for Camera File System 2.0 and Exif 2.21
Recording Format: Still: JPEG, RAW (14-bit, Canon original), sRAW, mRAW, RAW+JPEG, Video: MOV (Image data: H.264, Audio: Linear PCM)
Simultaneous Recording: Provided (RAW/sRAW/mRAW+JPEG also possible)
File Size: (1) Large: Approx. 17.90MB (5,184 x 3,456 pixels), (2) Medium: Approx. 8.00MB (3,456 x 2,304 pixels), (3) Small: Approx. 4.50MB (2,592 x 1,728 pixels), (4) RAW: Approx. 17.90MB (5,184 x 3,456 pixels), (5) M-RAW: Approx. 10.10MB (3,888 x 2,592 pixels), (6) S-RAW: Approx. 4.5MB (2,592 x 1,728 pixels), Exact file sizes depend on the subject, ISO speed, Picture Style, etc.
File Numbering: Consecutive numbering, auto reset, manual reset. Possible to create new folders and select folders in the CF card
Color Space: sRGB, Adobe RGB
Picture Style: Standard, Portrait, Landscape, Neutral, Faithful, Monochrome, Picture Style file
Recording Functions: With the WFT-E5A attached, image recording to the CF card and to the USB external media connected to the WFT-E5A will be possible as follows: (1) Standard, (2) Automatic switching of recording media, (3) Separate recordings according to image-recording quality, (4) Recording images having the same size
Backup Recording: Enabled with WFT-E5A attached

WHITE BALANCE

Type: Auto, Daylight, Shade, Cloudy, Tungsten Light, White Fluorescent Light, Flash, Custom, Color Temperature setting
Auto White Balance: Auto white balance with the image sensor
Color Temperature Compensation: White balance correction: ±9 mireds in 5 step increments, White balance bracketing: ±3 mireds in full-step increments, Blue/amber direction or magenta/green direction possible
Color Temperature Information Transmission: Provided

VIEWFINDER

Type: Eye-level pentaprism
Coverage: Vertical/Horizontal approx. 100%
Magnification: Approx. 1.0x (-1m-1 with 50mm lens at infinity)
Eyepoint: Approx. 22mm (from eyepiece lens center)
Built-in Dioptric Adjustment: -3.0 to +1.0m-1 (diopter)
Focusing Screen: Fixed
Mirror: Quick-return half mirror (transmission: reflection ratio of 40:60
Viewfinder Information: AF information (AF points, focus confirmation light), Exposure information (Shutter speed, aperture, ISO speed, AE lock, exposure level, spot metering circle, exposure warning), Flash information (Flash ready, flash exposure compensation, high-speed sync, FE lock, red-eye reduction light), Image information (Highlight tone priority, Monochrome shooting, maximum burst, white balance correction, CF card information), Composition information (Grid, electronic level), Battery check
Depth-of-Field Preview: Enabled with depth-of-field preview button

AUTOFOCUS

Type: TTL-CT-SIR AF-dedicated CMOS sensor
AF points: 19 (All cross-type)
Metering Range: EV -0.5~18 (at 73°F/23°C, ISO 100)
Focus Modes: Auto, One-Shot AF, Predictive AI Servo AF, AI Focus AF, Manual focusing (MF)
AF Point Selection: Automatic selection, manual selection
Selected AF Point Display: Indicated by transmissive LCD display in the viewfinder and on the LCD panel
AF-assist Beam: When an external EOS-dedicated Speedlite is attached to the camera, the AF-assist beam from the Speedlite will be emitted when necessary.
AF Microadjustment: C.Fn III-5

EXPOSURE CONTROL

Metering Modes: 63-zone SPC TTL metering (1) Evaluative metering (linkable to any AF point), (2) Partial metering (approx. 9.4% of viewfinder at center), (3) Spot metering (approx. 2.3% of viewfinder at center), (4) Center-weighted average metering
Metering Range: EV 1~20 (at 73°F/23°C with EF50mm f/1.4 USM lens, ISO 100)
Exposure Control: Program AE (Shiftable), Shutter-priority AE, Aperture-priority AE, Creative Auto, Full auto, Manual exposure, E-TTL II autoflash program AE
ISO Speed (Recommended Exposure Index): Automatically set, ISO 100–6400 (in 1/3-stop or 1-stop increments), Basic Zone modes: ISO 100–3200 set automatically, Extension settable (with C.Fn.I. 3-1): ISO 12800, High Tone Priority settable: ISO 200–6400
Exposure Compensation: Manual: ±5 stops in 1/3- or 1/2-stop increments (can be combined with AEB)
AE Lock: Auto: Applied in One-Shot AF mode with evaluative metering when focus is achieved, Manual: By AE lock button

SHUTTER

Type: Vertical-travel, mechanical, electronically-controlled, focal-plane shutter
Shutter Speeds: 1/8000 to 30 sec., plus Bulb, X-sync at 1/250 sec. (Total shutter speed range. Available range varies by shooting mode)
Shutter Release: Soft-touch electromagnetic release
Self-Timer: 10-sec. or 2-sec. delay

DRIVE SYSTEM

Drive Modes: Single, High-speed continuous, Low-speed continuous, and Self-timer (10 sec. or 2 sec. delay)
Continuous Shooting Speed (Approx.): High-speed: Max. 8.0 shots/sec, Low-speed: Max. 3.0 shots/sec
Maximum Burst: JPEG (Large/Fine): approx. 94 (CF)/approx. 126 (UDMA CF), RAW: approx. 15/approx. 15 (UDMA CF), RAW+JPEG (Large/Fine): approx. 6 (CF/UDMA CF)
Based on Canon's testing standards with a 2GB CF card, high-speed continuous shooting, ISO 100 and Standard Picture Style

LIVE VIEW FUNCTION

Shooting Modes: Still photo shooting and video shooting
Focusing: Quick mode (Phase-difference detection), Live mode/Face detection Live mode (Contrast detection), Face detection Live mode, Manual focusing (5x/10x magnification possible)
Metering Modes: Evaluative metering with the image sensor (still photos), Center-weighted average metering (video)
Metering Range: EV 0–20 (at 73°F/23°C with EF50mm f/1.4 USM lens, ISO 100)
Grid Display: Provided (Two-type grid displays)
Exposure Simulation: Provided
Silent Shooting: Provided (Mode 1 and 2)

VIDEO SHOOTING

File Format: MOV (image data: H.264; audio: Linear PCM (monaural))
File Size and Frame Rates: 1920 x 1080 (Full HD): 30p (29.97)/25p/24p (23.976), 1280 x 720 (HD): 60p (59.94)/50p, 640 x 480 (SD): 60p (59.94)/50p
Continuous Shooting Time: Approx. 12 min. (Full HD); 12 min. (HD); 24 min. (SD)
Focusing: Autofocus: Quick mode, Live mode, Face Detection Live mode; manual
Exposure Control: Program AE, Manual exposure
Exposure Compensation: ±3 stops in 1/3- or 1/2-stop increments

CUSTOMIZATION

Custom Functions: Total 27
Camera User Settings: Register under Mode Dial's C1, C2 and C3 positions
My Menu Registration: Provided

INTERFACE

USB Terminal: For personal computer communication and direct printing (USB 2.0 Hi-Speed)
Audio/Video OUT Terminal: (1) Video OUT terminal: NTSC/PAL selectable, (2) mini-HDMI OUT terminal
Extension System Terminal: For connection to WFT-E5A

POWER SOURCE

Battery: One Battery Pack LP-E6, AC power can be supplied via AC Adapter Kit ACK-E6, With Battery Grip BG-E7 attached.
Number of Shots (Approx.):

Shooting Method	Temperature	Shooting Conditions	
		AE 100%	AE 50%, FA 50%
Viewfinder shooting	73°F/23°C	Approx. 1000	Approx. 800
	32°F/0°C	Approx. 900	Approx. 750
Live View shooting	73°F/23°C	Approx. 230	Approx. 220
	32°F/0°C	Approx. 220	Approx. 210

The above figures apply with a fully-charged Battery Pack LP-E6 without a Battery Grip. The figures above are based on CIPA (Camera & Imaging Products Association) testing standards charged Battery Pack LP-E5 is used.
Battery Check: Auto
Power Saving: Provided. Power turns off after 1, 2, 4, 8, 15 or 30 min.
Date/Time Battery: One CR1616 lithium-ion battery
Startup Time: Approx. 0.1 sec. (Based on CIPA testing standards)

DIMENSIONS AND WEIGHT (Body Only)

Dimensions (W x H x D): 5.8 x 4.4 x 2.9 in./148.8 x 110.7 x 73.5mm
Weight: Approx. 28.9 oz./820g (body only)

- All the specifications above are based on Canon's Standard Test Method.
- The camera's specifications and physical appearance are subject to change without notice.

All images and effects simulated.

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